

RE: PCB Caulk Disturbance/Removal

Johns, Caroline <Caroline.Johns@Pembrokere.com>

Thu 8/20/2015 1:03 PM

To: Santos, Carmen <Santos.Carmen@epa.gov>; Eloy Cisneros <eloy@titan-enviro.com>;

Cc: Mark Capriotti <MCapriotti@swinerton.com>; Blake Peterson (blake.peterson@cushwake.com) <blake.peterson@cushwake.com>;

1 attachments (611 bytes)

removed.txt;

Hi Carmen,

Thank you for the follow up. We would like to join the call as well but this week is not possible, unfortunately.

Would you be available late next week or early the following week?

Thank you,
Caroline

From: Santos, Carmen [mailto:Santos.Carmen@epa.gov]

Sent: Thursday, August 20, 2015 3:40 PM

To: Eloy Cisneros

Cc: Mark Capriotti; Blake Peterson (blake.peterson@cushwake.com); Johns, Caroline

Subject: RE: PCB Caulk Disturbance/Removal

Hello Eloy:

I have not forgotten about you. Are you available to talk later this afternoon or Friday afternoon? A very short call to go over your question in the message attached below.

Thank you for your courtesies.

Sincerely,
Carmen

Carmen D. Santos
PCB Coordinator
USEPA Region 9 (LND-4-1)
Land Division
75 Hawthorne Street
San Francisco, CA 94105
Voice: 415.972.3360
santos.carmen@epa.gov

"Think left and think right and think low and think high. Oh, the things you can think up if only you try!" Dr. Seuss

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From: Eloy Cisneros [mailto:eloy@titan-enviro.com]

Sent: Tuesday, July 14, 2015 3:04 PM

To: Santos, Carmen

Cc: Mark Capriotti; Blake Peterson (blake.peterson@cushwake.com); Johns, Caroline

Subject: Re: PCB Caulk Disturbance/Removal

Good day Carmen,

I wanted to follow up on our call last week and request that you forward the documents we discussed.

Also, just to clarify please confirm that if the ownership were to decide not to do the proposed project no further action would be required as long as they submit the closure report and deed to the EPA.

Thanks

Eloy F. Cisneros, CAC, CMC, CLI/A/PM
Titan Environmental Solutions, Inc.
SBA 8(a), DBE, SBE, MBE Certified
1901 Harrison St., Suite 1100
Oakland, CA 94612
Mobile: (510) 390-2657
Office: (888) 948-4826
Email: eloy@titan-enviro.com

On Jul 10, 2015, at 12:47 PM, Eloy Cisneros <eloy@titan-enviro.com> wrote:

Carmen,

Attached please find the PCB caulk bulk sample results for this project - more background information for our discussion at 2 pm.

Best Regards

Eloy F. Cisneros, CAC, CMC, CLI/A/PM
TITAN Environmental Solutions, Inc.
SBA 8(a), DBE, SBE, MBE Certified
1901 Harrison St., Suite 1100
Oakland, CA 94612
Mobile: (510) 390-2657
Office: (888) 948-4826
Email: eloy@titan-enviro.com

cid:image001.jpg@01D05671.E9454AB0
www.titan-enviro.com

From: Eloy Cisneros
Sent: Friday, July 10, 2015 9:54 AM
To: 'Santos, Carmen'
Cc: Mark Capriotti; Blake Peterson (blake.peterson@cushwake.com); Johns, Caroline
Subject: RE: PCB Caulk Disturbance/Removal

Good morning Carmen,

Thanks for accepting our invitation to the call this afternoon. In preparation for our call I wanted to provide a little background information. The project that we will be discussing is a 14th floor renovation at the 100 California building in San Francisco which will include the disturbance and removal of PCB containing caulk associated with an exterior louver system at the building. Please find attached a work plan that was developed for a previous project performed at the 100 California building. Based on the correspondence associated with this previous project it is understood that you were involved in the approval process and that the attached work plan was accepted by the EPA. We plan to perform the 14th floor renovation project in compliance with the work practices and procedures described in this previously approved plan. A new work plan will be drafted and submitted for EPA approval and we are hoping that if the plan is consistent with the previously approved plan it will expedite the EPA approval process.

So, in a nutshell on our call this afternoon we want to discuss the work plan and the EPA approval process so we are prepared to comply with all regulatory requirements associated with the PCB caulk disturbance/removal.

We look forward to speaking with you this afternoon and please let me know if you require any additional information prior to the call.

Best Regards,

Eloy F. Cisneros, CAC, CMC, CLI/A/PM
TITAN Environmental Solutions, Inc.
SBA 8(a), DBE, SBE, MBE Certified
1901 Harrison St., Suite 1100
Oakland, CA 94612
Mobile: (510) 390-2657

Office: (888) 948-4826
Email: eloy@titan-enviro.com

cid:image001.jpg@01D05671.E9454AB0
www.titan-enviro.com

From: Santos, Carmen [<mailto:Santos.Carmen@epa.gov>]
Sent: Wednesday, July 8, 2015 1:13 PM
To: Eloy Cisneros
Cc: Mark Capriotti; Blake Peterson (blake.peterson@cushwake.com); Johns, Caroline
Subject: RE: PCB Caulk Disturbance/Removal

Hi Eloy:

A conference call with you and your team on Friday July 10, 2015 is good.

Thank you for your courtesies.

Sincerely,
Carmen

Carmen D. Santos
PCB Coordinator
USEPA Region 9 (LND-4-1)
Land Division
75 Hawthorne Street
San Francisco, CA 94105
Voice: 415.972.3360
santos.carmen@epa.gov

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From: Eloy Cisneros [<mailto:eloy@titan-enviro.com>]
Sent: Wednesday, July 08, 2015 11:13 AM
To: Johns, Caroline
Cc: Mark Capriotti; Santos, Carmen; Blake Peterson (blake.peterson@cushwake.com)
Subject: Re: PCB Caulk Disturbance/Removal

That works for me.

Carmen please let us know if 2 pm Friday will work for you.

Thanks

Eloy F. Cisneros, CAC, CMC, CLI/A/PM
Titan Environmental Solutions, Inc.
SBA 8(a), DBE, SBE, MBE Certified
1901 Harrison St., Suite 1100
Oakland, CA 94612
Mobile: (510) 390-2657
Office: (888) 948-4826
Email: eloy@titan-enviro.com

On Jul 8, 2015, at 10:39 AM, Johns, Caroline <Caroline.Johns@Pembroke.com> wrote:

Thank you Mark. Those work for me as well.

Carmen and Eloy, could we say 2pm on Friday?

Thank you,
Caroline

From: Mark Capriotti [<mailto:MCapriotti@swinerton.com>]
Sent: Wednesday, July 08, 2015 1:30 PM
To: Santos, Carmen; Eloy Cisneros
Cc: Johns, Caroline; Blake Peterson (blake.peterson@cushwake.com)
Subject: RE: PCB Caulk Disturbance/Removal

Team, I will make myself available for any of these times.

Sincerely

Mark Capriotti

Mark Capriotti
Project Executive | Swinerton Builders
260 Townsend Street | San Francisco, CA 94107
T 925.842.0814 | F 925.842.7875 | C 415.385.8249
mcapriotti@swinerton.com | www.swinerton.com
<image001.jpg>

From: Santos, Carmen [<mailto:Santos.Carmen@epa.gov>]
Sent: Wednesday, July 08, 2015 9:57 AM
To: Eloy Cisneros
Cc: Johns, Caroline (Caroline.Johns@fmr.com); Mark Capriotti; Blake Peterson (blake.peterson@cushwake.com)
Subject: RE: PCB Caulk Disturbance/Removal

Hello Eloy:

This week is going to be hard to set time for a conference call. I have a deadline to meet this Friday and will not be able to give my time to other projects. What about a conference call the later part of the afternoon, say after 2:00 p.m.; or a call on Monday July 13 after 10:00 AM. Those options would work better for me given the deadlines I have to complete this week.

Thank you for your courtesies and understanding.

Sincerely,
Carmen

Carmen D. Santos
PCB Coordinator
USEPA Region 9 (LND-4-1)
Land Division
75 Hawthorne Street
San Francisco, CA 94105
Voice: 415.972.3360
santos.carmen@epa.gov

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From: Eloy Cisneros [<mailto:eloy@titan-enviro.com>]
Sent: Tuesday, July 07, 2015 5:10 PM
To: Santos, Carmen

6/25/2018

RE: PCB Caulk Disturbance/Removal - Santos, Carmen

Cc: Johns, Caroline (Caroline.Johns@fmr.com); Mark Capriotti (MCapriotti@swinerton.com); Blake Peterson (blake.peterson@cushwake.com)
Subject: RE: PCB Caulk Disturbance/Removal

Carmen,

Please let me know if you are available for a conference call with the project team this week.

Thanks,

Eloy F. Cisneros, CAC, CMC, CLI/A/PM
TITAN Environmental Solutions, Inc.
SBA 8(a), DBE, SBE, MBE Certified
1901 Harrison St., Suite 1100
Oakland, CA 94612
Mobile: (510) 390-2657
Office: (888) 948-4826
Email: eloy@titan-enviro.com

<image002.jpg>

www.titan-enviro.com

From: Santos, Carmen [<mailto:Santos.Carmen@epa.gov>]
Sent: Tuesday, June 2, 2015 10:49 AM
To: Eloy Cisneros
Subject: RE: PCB Caulk Disturbance/Removal

Hello Eloy:

Thank you for reaching out to us, we appreciate it.

A conference call with you would be most productive, in my opinion, to go over the situation at hand. How is your schedule this week? I am booked solid until Friday June 5, 2015 and have some conference calls already scheduled for June 5th.

Thank you for your courtesies.

Sincerely,
Carmen

Carmen D. Santos
PCB Coordinator
USEPA Region 9 (LND-4-1)
Land Division
75 Hawthorne Street
San Francisco, CA 94105
Voice: 415.972.3360
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From: Eloy Cisneros [<mailto:eloy@titan-enviro.com>]
Sent: Tuesday, June 02, 2015 10:13 AM

To: Santos, Carmen
Subject: PCB Caulk Disturbance/Removal

Good morning Ms. Santos,

I have a client that has identified PCBs in building caulk materials (PCB concentrations range from 58 to 1300 ppm) that are scheduled for disturbance/removal as part of an upcoming small renovation project. The building is located in San Francisco, CA and the total amount of disturbance is less than 100 linear feet. The client has identified some abatement contractors with experience disturbing/removing PCB containing caulk and would like to hire them to perform the work. My company, Titan Environmental Solutions, Inc., would act as the consultant on the project and monitor the work activities to ensure compliance with 40 CFR 761 – including proper work practices, waste handling and disposal. Please advise as to what notifications, submittals or additional requirements, if any, would apply to this project. Your prompt response would be greatly appreciated.

Thanks,

Eloy F. Cisneros, CAC, CMC, CLI/A/PM
TITAN Environmental Solutions, Inc.
SBA 8(a), DBE, SBE, MBE Certified
1901 Harrison St., Suite 1100
Oakland, CA 94612
Mobile: (510) 390-2657
Office: (888) 948-4826
Email: eloy@titan-enviro.com

cid:image001.jpg@01D05671.E9454AB0
www.titan-enviro.com

<100 Cal 14th Floor Roof Project PCB Sample Results.pdf>

RGA ENVIRONMENTAL, INC.

Hazardous Materials Work Plan

Lead and PCBs

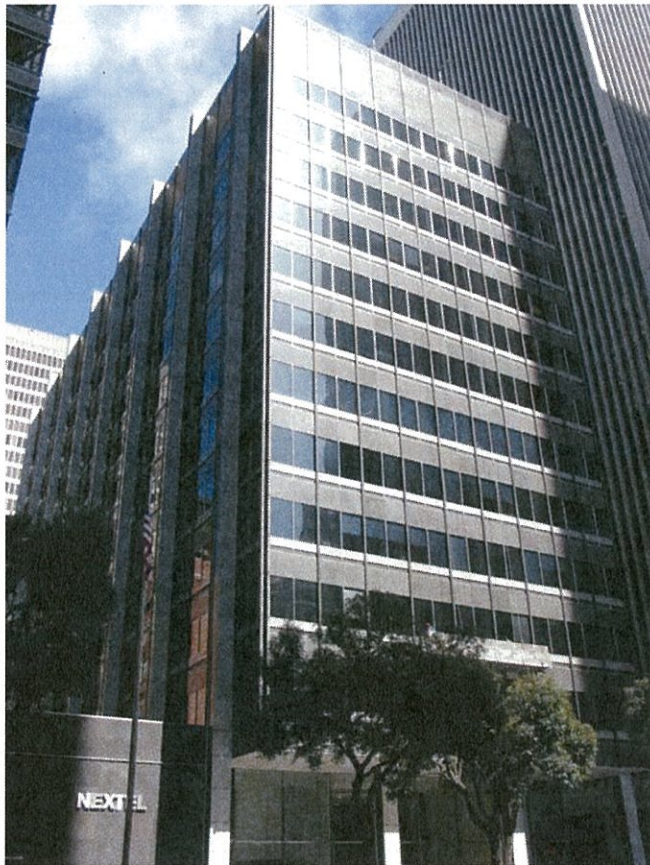
Broadway Real Estate Services

7/27/2009
Revised 9.1.09

Preliminary Lead PCB Work Plan

PCB AND LEAD WORKPLAN

PART 1 – GENERAL



1.1 SUMMARY

- A. Coordinate work with the Building Envelope Repairs document by Simpson Gumpertz & Heger Inc. (SGH), 100 California Street, San Francisco, CA.
- B. The Contractor shall furnish all labor, materials, facilities, equipment, installation services, employee training, notifications, permits, licenses, certifications, agreements and incidentals necessary to perform the specified work. Perform work in accordance with the contract documents, the latest regulations from the Occupational Safety and Health Administration (OSHA), the

United States Environmental Protection Agency (EPA), the state of California and all other applicable federal, state and local agencies. Wherever there is conflict the more stringent provisions shall apply.

- C. This work plan is site specific and deals with known PCBs and lead containing materials. It is not a substitute for the contractor's Safety Policy and Injury Illness Prevention Plan, worker training and protection, monitoring, and the use and selection of personal protective equipment.

1.2 COMPLIANCE AND INTENT

- A. This project involves the removal of flexible water proofing materials hereafter referred to as caulking from between sections of exterior granite, marble sheeting and associated metal building assemblies. During all work, the contractor shall provide monitoring and worker protective equipment in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) and as required by this work plan. Where there is conflict, the most stringent requirement shall apply.

1. Assume that all exterior caulking contains both polychlorinated biphenyls (PCB) and lead. PCB concentrations range to 18000 ppm. Lead concentrations range to 46,000 parts per million (see the attached analytical data).

- B. The primary objective of this work plan is to ensure the well being of workers, the general public, observers, field personnel and the community surrounding the subject property. Accordingly, all personnel assigned to this project shall read this work plan (WP) and sign the Agreements and Acknowledgment Statement (Appendix A) to certify that they have read, understood and agreed to abide by this WP and its provisions, including the "Urban Water Proofing Injury and Illness Prevention Program" (Appendix C). Any modification to this work plan will be via amendment see Appendix B.

1. Information contained in the WP will be presented to all personnel and visitors at a pre-entry safety briefing. Additional safety information which becomes pertinent over the course of the project will be conveyed to personnel through "tool-box safety meetings" and, if necessary an addenda to the WP. Safety and exposure issues will be addressed immediately and discussed with involved personnel on a one-to-one basis as appropriate.
- C. Lead and PCB wastes are regulated. Perform appropriate waste characterization sampling as required by this work plan, by the regulations, and the selected landfill(s). All testing shall be done in the presence of the Owner's Environmental Consultant. Chain-of-custody forms shall be provided to the Owner and the Owner's Consultant within one (1) working day following sample delivery to the laboratory.
1. If additional hazardous materials are identified the Contractor shall notify the consultant for testing.
 2. Hazardous materials removed shall be disposed of in an approved manner complying with all applicable federal, state, and local regulations. Appropriate waste manifests shall be furnished to the Owner.
- D. Perform all work specified herein with competent persons trained, knowledgeable and qualified in state-of-the-art techniques relating to hazardous materials handling, and the subsequent cleaning of areas. Work shall be completed under the on-site supervision of a Competent Person. All workers shall have current medical exams for the use of respiratory protection, current fit test of appropriate respirators and awareness training appropriate for the exposure hazards.
- E. During removal activities, the Contractor shall protect against contamination of soil, water, plant life, and adjacent building areas, and shall ensure that there is no airborne release of hazardous materials and dusts. The Owner may collect air, wipe and direct

reading air samples in the building and in adjacent areas to evaluate the Contractor's performance. Evidence of settled dust or airborne levels of contaminants above background will require the implementation of additional controls.

- F. Exterior work shall be completed within swing stage enclosures. Gross removal of caulk shall be completed using hand tools. Final surface preparation will be with shrouded grinders exhausted with HEPA vacuums unless otherwise specified herein. As appropriate the building interiors will be protected at all times during the work. Representative wipe and or air samples for residual PCBs and or lead will be collected inside representative spaces before and during the work to assure that no contaminants are released.

- G. Typical Swing Stage Enclosure – Urban Waterproofing



1.3 DEFINITIONS

Action Level - Lead: Employee exposure without regard to the use of respirators, to an airborne concentration of 30 micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA).

Area Monitoring: Sampling for airborne lead and particulate PCB concentrations within the work area and outside the work area.

Authorized Visitor: A designated employees, consultant for the Owner or representatives of any federal, state and local regulatory or other agency having jurisdiction over the project.

Baseline: Refers to the background levels of lead, PCBs and airborne dust levels monitored before removal work. Baseline samples may be wipe or air samples analyzed by an accredited laboratory and measurements using direct reading instrumentation.

Breach: Measured or visible release of PCB's, lead or dust from regulated area.

CAL/OSHA: State of California, Occupational Safety & Health Administration, enforcement arm of the California Department of Labor related to worker protection laws.

Certified Industrial Hygienist (CIH): A person certified by the American Board of Industrial Hygiene retained by contractor.

Chip Chaser: Designated worker who will continuously patrol the surrounding area to collect, (i.e. pickup, HEPA-vacuum, surface clean etc.) any suspect debris associated with the Envelope Repairs.

Competent Person: As a general rule, the term is not specifically defined. In a broad sense, an OSHA competent person is an individual who, by way of training and/or experience, is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, is designated by the employer, and has authority to take appropriate actions (see 1926.32). Some standards add additional specific requirements which must be met by the competent person (i.e. lead & asbestos).

Critical Barrier: A unit of temporary construction which provides the only separation between an asbestos work area and an adjacent potential occupied space. This may include the decontamination unit, perimeter walls, ceilings, penetrations and any temporary critical barriers between the work area and the uncontaminated environment.

Decontamination Area: Area which is constructed to provide the means for workers to

store clothing, equipment and other articles, and to properly remove PCB's and lead contamination upon concluding work activities that result in exposure to these hazardous materials.

DHS: State Department of Health Services

DOP: Dioctylphthalate, the challenge aerosol used to perform on-site leak testing of HEPA filtration equipment.

DOSH: Division of Occupational Safety & Health (Also see Cal-OSHA)

Disposal Bag: Minimum six (6) mil thick leak-tight plastic bags used for transporting PCB's waste from a work area to disposal or shipping container. Each disposal bag must be labeled according to 5194 (HAZCOM) and 40 CFR 761.

Hazardous waste disposal bags must be labeled with generator's name, address, and site location and generator number.

Enclosure: refers to the regulated construction area to prevent the release of contaminants into the surrounding area.

Environmental Consultant: Certified Industrial Hygienist (CIH), Certified PCB's Consultant (CAC), and/or Certified Site Surveillance technician retained by the Owner.

EPA: Environmental Protection Agency.

HEPA: High Efficiency Particulate Air filter capable of filtering out airborne particulate 0.3 microns or greater in diameter at 99.97 percent efficiency.

Lead: Toxic metallic element of atomic number 82, or any other materials, substances or compounds that may contain lead. Note for metal painted surfaces lead is often found in combination with chromates. For the purposes of this work plan, lead also refers to lead-chromate paints.

Lead Hazardous Waste: Paint, sludge, debris or cleaning materials are to be treated as a hazardous waste if laboratory results indicate a lead (Pb) concentration of 5 milligrams per liter

(mg/l) or greater using the EPA approved Toxicity Characteristic Leaching Procedure (TCLP) test. The waste will also be classified as hazardous waste if the Total Threshold Limit Concentration (TTLC) of measured lead is greater than 350 mg/kg or if the Soluble Threshold Limit Concentration (STLC) of measured lead is greater than or equal to 5 mg/l.

NESHAP: National Emission Standard for Hazardous Air Pollutants - EPA Regulation 40 CFR Subpart M, Part 61.

Owner: Broadway Real Estate Services LLC

Owner's Representative: RGA Environmental, Inc.

Passive Sampling: Refers to air sampling with no air agitation.

PCB'S: Caulk with concentrations of PCB's greater than 50 PPM.

Permissible Exposure Level (PEL) - An eight-hour time weighted average concentration.

PEL - Lead: 50 micrograms of lead per cubic meter of air ($50 \mu\text{g}/\text{m}^3$).

PEL - PCB's $.05 \text{ mg}/\text{m}^3$.

Personal Monitoring: Sampling for PCB's and lead concentrations within the breathing zone of an employee.

Powered Air Purifying Respirator (PAPR): A full facepiece respirator that has the breathing air powered to the wearer after it has been purified through a filter.

Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

Visible Emissions: Any emission containing particulate material that is visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Work Area: The area where lead or hazardous material work or removal is performed and that is defined or isolated to prevent the spread of lead or PCB dust, lead dust, or visible debris, and entry by unauthorized personnel.

Zinc Protoporphyrin (ZPP) Test: Biological test for lead-exposure that measures the amount of zinc protoporphyrin in blood.

1.4 REFERENCES

- A. The publications attached to this work plan below form a part of this WP by reference. Most publications are referred to in the text by basic designation only. If there is a conflict between any of the listed regulations or standards, then the most stringent or restrictive shall apply.

1.5 SUBMITTALS

- A. The following items shall be submitted to, and approved by, the Owner or the Owner's representative before commencing work involving the hazardous materials outlined in this work plan.
- B. Detailed schedule that includes location and number of stage units; etc. Schedule showing milestone dates for activities such as mobilization, work area preparation, caulk removal, waste load-out, lead removal and lead load-out, final clearance evaluations, completion dates, etc. Also, submit variances received from regulatory agencies as applicable. Note: this material is considered a RCRA waste and storage is limited to 90 days unless a variance is granted. Variances for RCRA wastes are the responsibility of the Contractor.
- C. Provide a site safety plan prior to project initiation. The site safety plan shall deal with, at a minimum:
1. Personal protective equipment;
 2. Site safety and health hazards;
 3. Materials release incidents and spill cleanup.
 4. Control of water leakage or discharge

within and/or from the work area;

5. Caulk handling procedures;
6. Contractor's internal administrative and inspection procedures;
7. Protocol for responding to complaints or questions from interested parties;
8. 24-Hour emergency telephone numbers for Company Officers with authority to respond to emergencies.

D. Competent Person [REDACTED]
(as defined by Title 8 CCR and CFR): Demonstrate education and specialized training with successful completion of examination of an EPA approved lead DHS accredited training courses.

E. Workers:

1. Demonstrate education and specialized training with successful completion of applicable EPA DHS and or OSHA accredited training courses,
2. Submit most current certificates (less than 11 months) signed by each employee and trainer that the employee has received proper training in the handling of materials that contain PCBs, lead and silica. Certificate information must include documentation showing that the worker understands the following; health implications and risks involved (including the illnesses possible from exposure to PCBs and lead), the use and limits of the respiratory equipment to be used, and the results of monitoring of airborne quantities of PCB's and lead concerning health and respiratory equipment.
3. Proof of Respirator Fit Testing: Provide proof of respirator fit testing. Fit testing records must be less than eleven (11) months old and document testing on the type of respiratory protective equipment used for this project. The Competent Person must sign fit testing records.
4. Foreman Training: Submit evidence that

the foreman to be used on the job fulfills the qualifications detailed in this work plan and has experience in similar jobs.

5. Medical Examinations: Submit evidence signed by a physician that each employee used on the job has received an appropriate medical examination as detailed in 1532.1. The submitted document must be less than eleven months old.

F. Certificates of Compliance: Submit manufacturer's certification that vacuums, ventilation equipment, and other equipment conform to ANSI Z9.2.

G. Hazardous Waste:

1. Hazardous waste must be tested and categorized for purposes of disposal. The Contractor shall submit written evidence of approved testing (including copy of the actual chain-of-custody forms) and disposal of hazardous wastes within five (5) days following the completion of each phase of the project.
2. Submit written evidence that the landfill(s) for disposal are approved for PCBs, lead and any other hazardous materials disposal by the USEPA and state or local regulatory agency(s). Submit uniform hazardous waste manifests prepared, signed and dated by an agent of the landfill. The manifest must certify the amount of hazardous materials delivered to the landfill. The manifest must be provided to the Owner's Consultant within twenty-five (25) working days after delivery.

3. ~~BAAQMD~~

H. Licenses: Submit copies of state and local licenses, evidence of Cal-OSHA registration and permits necessary to carry out the work of this contract.

I. Material Safety Data Sheets/Specification Sheets: The Contractor shall submit Material Safety Data and Specification Sheets for all chemicals, encapsulants, etc. to be used for this project.

J. Rental Equipment: When rental equipment is to be used in the removal areas or to transport hazardous waste, the Contractor shall provide written notification regarding intended use of the rental equipment to the rental agency before use, with copies to the Owner's Consultant and the Owner's representative.

K. Submittals at the Completion of the Project - Upon completion of on-site work, Contractor shall provide a detailed project summary that will include each of the items listed below. The project Summary shall be submitted and approved by the Owner's representative prior to acceptance of final pay request and shall include the following:

1. Contractor to submit copies of the Security and Safety Logs showing names of persons entering the workspace. The logs shall include date and time of entry and exit, supervisor's record of any accident (detailed description of accident),
2. Waste manifests
3. Personal air sample results and skin wipe tests.
4. Project Summary:
 - a. Hazardous waste hauler (DHS, DOT);
 - b. Name, address, and registration number of hazardous waste hauler;
 - c. Laboratory(ies) performing analysis (NIST/NVLAP);
 - d. Name, location, telephone number, and EPA registration of waste disposal site used.

5. DOP testing results.

1.6 ENVIRONMENTAL CONSULTANT/MONITORING TECHNICIAN

A. The Owner's Consultant will act as the Owner's liaison in technical matters

involving the hazardous materials removal and disposal work.

B. The Owner's Consultant will only review work practices general conformance with the workplan.

C. The designated site representative of the Owner's Consultant is authorized by the Owner to have free access to all hazardous materials work areas, to assist in interpretation of procedures, and to advise on all provisions of the Contract Documents pertaining to the control of hazardous materials.

D. The Owner's Consultant will advise the Owner to stop the Contractor's work if, in the course of performing monitoring duties, the Consultant observes an instance of substantial non-conformance with the Contract Documents and/or situations presenting health hazards to workers. Work shall not resume until the corrective measures have been enforced. Instances of substantial non-conformance shall include, but not be limited to, the following:

1. Activities or misconduct imperiling worker's safety; and

2. Breaches in containment resulting in potential release of PCB's, lead or other visible dust to non-work areas.

E. If appropriate conditions are not made after two (2) warnings, or if an immediate threat exists that PCB's or lead dust, could be released outside the work area, all removal work will be stopped. The decision to stop work shall be made jointly by the Owner's Consultant and the Owner.

F. During gross removal with razor knives, use disposable coveralls and impervious gloves. During mechanical grinding to create bondable surfaces, additional respirable exposure hazards are created (i.e. PCB, lead and silica); therefore in addition to disposable coveralls use full face respiratory protective equipment.

1. All workers within ten (10) feet of any grinding process shall use PPE

including full face respiratory protection regardless of personal exposure monitoring data. Workers at a distance greater than 10' may down grade respiratory protection based upon exposure monitoring data.

- G. Airborne or surface concentrations of PCB's and / or Lead outside the work area shall not exceed background levels as measured prior to the initiation of the work.
- H. The Owner's Consultant may perform air sampling inside and outside the hazardous materials work area during all phases of the work. The Contractor shall cooperate fully with the Consultant and ensure the cooperation of his workers during collection of air samples and work area inspections.
- I. The Environmental Consultant's role in advising the Owner regarding environmental health matters does not relieve the Contractor's obligation to comply with all applicable health and safety regulations promulgated by the federal, state, or local governments. Air monitoring results generated by the Owner's Consultant shall not be used by the Contractor to represent compliance with regulatory agency requirements for monitoring of workers exposure to airborne PCB's, nor shall any other activity on the part of the Owner's Consultant represent the Contractor's compliance with applicable health and safety 2.4 regulations.

PART 2 - PRODUCTS

2.1 2.1 SIGNS AND LABELS:

- A. Provide labeling in accordance with U.S. EPA requirements. Provide the required signs, labels, warnings, or posted instructions for containers used to transport hazardous material to the landfill.
- B. Location of Caution Signs and Labels: Provide bilingual caution signs at all approaches to work areas in languages used by the Contractor's employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the

area. Provide labels and affix to all PCB's, lead, scrap, waste, debris, and other products contaminated with hazardous materials.

- C. Warning PCB: conforming to §5194. Hazard Communication, :

- D. Warning Sign Format: Vertical format conforming to Title 8 CCR 1532.1:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

2.2 PLASTIC SHEETING:

1. Use 6 mil (minimum) fire-retardant (FR) polyethylene (poly) conforming to NFPA #701 and Tested in accordance with ASTM E-84.

2.3 TAPE:

- A. Tape, 2" or wider, shall be capable of sealing joints of adjacent sheet of polyethylene and shall attach polyethylene sheet to finished or unfinished surfaces or similar materials. Tape shall be capable of adhering under dry and wet conditions, including use of amended water. Damage to critical or sensitive surfaces shall be repaired to the satisfaction of the Owner.

VACUUM EQUIPMENT:

- A. All vacuum equipment used in the work area shall use HEPA filtration systems and be of the wet-dry type. Provide challenge testing to document the effectiveness of the vacuum units. The test results shall be signed by the individual performing the testing.

2.5 RESERVE EQUIPMENT:

- A. Provide authorized visitors, Owner, Consultants or other contractors requiring access to the work area with suitable protective clothing, headgear, eye protection, as described in this work plan, whenever the visitor must enter the work area. The Contractor shall have available and maintain at all times a minimum of three

(3) suits and other suitable protective equipment for this purpose. All protective equipment shall be new and for the exclusive use of visitors.

- B. Wearer respiratory protection is required the Contractor shall document that each visitor has been trained and fit-tested prior to entering a removal area.

2.6 TRANSPORTATION EQUIPMENT:

- A. Transportation equipment, as required, shall be lockable and suitable for loading, temporary storage, transit and unloading of contaminated waste without exposure to persons or property. Any vehicle used to transport PCB's and or lead containing wastes shall be properly registered with all applicable controlling agencies.

PART 3 - EXECUTION

3.1 AREA ISOLATION - INTERIOR

- A. The Contractor shall be responsible for identifying all potential leakage areas including but not limited to HVAC components that may potentially lead to interior contamination. All suspect leakage areas will be sealed airtight for the duration of the removal work impacting that area. Openings shall be sealed with at least one (1) layers of 6-mil polyethylene secured with duct tape, as applicable.

1. Prior to isolating an area coordinate with owner.
2. Prior to beginning any exterior removal work coordinate with the Owner's Consultant to inspect critical barriers for suspect leakage areas before any exterior removal is undertaken.

- B. Where there is evidence of contamination within or on the exterior to the building as determined by comparison to baseline laboratory or concurrent baseline direct reading samples. Where there is variance the contractor is responsible for correcting work protocols and the cleanup.

3.2 AREA ISOLATION - EXTERIOR

- A. Containment is not required for the exterior, removal work, however an entry and exit area(s) to the stage lift (i.e. roof or other area) and worker decontamination area(s) is required.

- a. Polyethylene drop sheets will be required within the regulated work areas. The drop cloths shall be weighted at all edges and will be required at each location where work is occurring.

- b. At minimum following each day of work Contractor shall clean the regulated area and as needed replaced the drop sheet to control contamination.

- B. As required, establish designated limits for the hazardous materials work (regulated area) with continuous barriers. Use barrier tape (3-inch) and provide signs around the perimeter of the work area according to EPA, OSHA, and Cal-OSHA.

- C. The Owner's Consultant will inspect and approve all regulated area setups and critical barriers before any removal is undertaken. If a containment area is breached (failure of polyethylene seals, visible dust emission, counts or direct reading measurements above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the Environmental Consultant. Clearance for any contaminated areas will be determined by the Owner's Consultant and may include air sampling. The Contractor shall be responsible for all costs associated with the clean-up and testing (including costs associated with the Environmental Consultant) resulting from containment breaches.

- D. A worker decontamination area must be placed in the vicinity of the containment. The contractor must supply the workers with a minimum of a wash bucket and change out area to facilitate decontamination.

- E. At minimum install drop sheets within the swing stage, storage area and

decontamination area. Conducted work in such a manner that it minimizes the potential dissemination of particulate beyond the boundaries of the drop sheets.

1. A chip chaser shall continuously patrol the work area and surrounding ground level building area to collect any fugitive particulate emissions.

F. No exterior work shall be conducted on days where wind causes or contributes to the release of particulate from a swing stage.

G. The Owner's Consultant will inspect and approve all regulated areas before any work is undertaken. If an enclosure area is breached (i.e. visible particulate accumulation outside of the drop cloths area, visible dust emission, direct reading or particulate measurements and/or area samples above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the Environmental Consultant.

H. Clearance for any contaminated areas will be determined by the Owner's Consultant and may include lead dust clearance testing. The Contractor shall be responsible for all costs associated with the clean-up and testing (including costs associated with the Environmental Consultant) resulting from containment breaches.

3.4 PERSONNEL PROTECTION

A. Informed Workers:

1. All workers shall be informed of the hazards of PCBs, lead and any other hazardous materials exposure. Workers shall also be instructed in the use and fitting of respirators, protective clothing, decontamination procedures, and all other aspects associated with removal work.

B. Personal Hygiene Practices:

1. The Contractor shall enforce and follow good personal hygiene practices during the removal of hazardous materials. These practices will include but not be

limited to the following:

a. No eating, drinking, smoking or applying cosmetics in the work area. The Contractor shall provide a clean space, separated from the work area, for these activities.

2. If air monitoring data gathered by the Owner's Consultant in areas adjacent to the work areas shows exposure to airborne PCBs, lead or other hazardous materials exceeding Cal-OSHA criteria, that area will become regulated and workers must wear protective clothing and approved respirators and must have a shower facility provided to them.

A. Respirators:

1. Establish a respirator program as outlined by ANSI and required by Cal-OSHA. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH). Respirators selected must be approved by the Competent Person. Submit program for review a minimum of five (5) working days prior to the commencement of removal activities.

2. Respirators and Protective Equipment for Handling PCB's and Lead:

a. At minimum, provide each employee with the following respiratory protection and protective clothing for each work phase:

b. Pre-cleaning, containment set-up, cut out with hand tools and containment removal work: NIOSH-approved, half-face respirators with HEPA cartridges.

c. All interior and exterior grinding work: NIOSH-approved, full-face respirators with HEPA cartridges (PAPR is recommended).

B. Protective Clothing:

1. Provide personnel exposed to PCB's, and lead dust with fire retardant

disposable protective whole body clothing, head coverings, gloves, face, eye and foot coverings. Provide appropriate gloves to protect workers hands from exposure to hazardous materials. Make sleeves secure at the wrists and make foot coverings secure at the ankles with tape. Ensure that all personnel entering and leaving the workspace follow this procedure. Suits shall be of adequate size to accommodate the largest employee. Foot covers may be part of the coveralls. Non-disposable footwear shall be left in the work area until it is decontaminated or disposed of at the completion of the job.

- C. Contractor shall ensure that all certified employees and visitors use protective equipment and shower or wash down following each entry into the containment area after the start of the hazardous materials removal.

3.5 WORK AREA

- A. Ambient airborne lead and / or PCB levels outside the work area shall not exceed baseline. If the airborne lead concentration outside the work area exceeds baseline, then the removal must stop. Contractor must take appropriate actions to reduce the airborne lead concentration within the acceptable limits.
- B. The building caulk contains lead and PCBs. All removal work must be performed in accordance with DOSH's Lead in Construction Standard, Title 8 CCR 1532.1.
- C. Until an exposure assessment has been performed, Contractor shall treat all employees as if they were exposed to lead above the Permissible Exposure Level (PEL) and shall provide the following:

1. Appropriate respiratory protection to each employee;
 2. Appropriate personal protective clothing and equipment;
 3. Change areas and hand-washing facilities;
 4. Biological monitoring for each employee consisting of sampling and analysis for lead and zinc protoporphyrin levels.
- D. All lead / PCB debris shall be immediately bagged following removal.
- E. At the initiation of work collect representative personal samples for lead, PCBs and silica dust. Collect samples for each job classification. Thereafter collect representative personal samples for each job classification monthly.
- F. Collect representative personal skin wipe sampling for PCBs. Samples must be representative of each job categorization. The purpose of skin wipe testing is to document the effectiveness of PPE measures.
- G. The Contractor shall transport lead / PCB waste bags to the metal waste debris containers at designated hours approved by the Owner.
- H. The Contractor is responsible for proper waste stream categorization, manifesting and disposal of lead / PCB waste as required by USEPA and applicable state and local regulations. The Owner, at its option may collect duplicate waste stream samples to verify the statistical methods used by the Contractor. In the event of conflict, the Owner's results will prevail. The Contractor at no additional expense to the Owner will appropriately dispose of the waste.
- I. The Contractor shall collect all waste stream samples in the presence of the Owner's Consultant and shall supply the Owner's Consultant with a copy of the chain-of-custody within one (1) day of receipt by the laboratory.

- J. Lead / PCB containing debris and contaminated water shall be cleaned from the work area at the end of each work shift. As appropriate the Contractor shall clean the work area using wet methods, HEPA vacuuming equipment and/or hand pickup as appropriate.

3.6 AIR MONITORING - PCB'S & LEAD:

- A. The purpose of the air monitoring conducted by the Owner will be to detect possible release of dusts (PCB's or lead) emanating from the work areas.
- B. The Owner may provide area monitoring as described in this work plan. In addition to air monitoring within the work and adjacent areas, the Owner may collect wipe samples to determine lead / PCB concentrations in settled dusts. If sample results indicate that conditions have exceeded the baseline, as determined by the Owner, all work shall cease. Work shall not recommence until the condition(s) causing the increase have been corrected and the affected area cleaned.
- C. All lead air sampling shall comply with NIOSH 7082 method and NIOSH 7300 method. PCB air sampling shall comply with NIOSH 5503.
- D. Direct reading air monitoring dust concentrations shall not exceed baseline within the building.
- E. The Contractor shall be responsible for all personal air sampling. During the performance of any work in the contaminated work area, sufficient personnel breathing zone samples shall be taken to constitute representative sampling. These samples shall be taken each shift and for each distinct crew operation, and shall be used to verify adequacy of dust control and respiratory protection. Personal breathing zone air sampling shall be in accordance with Cal-OSHA PCB's and lead standards.

3.7 CLEARANCE INSPECTIONS – PCB'S AND LEAD

- A. Lead / PCB Clearance Testing: maybe completed where there is evidence of

interior dust contamination. Clearance level will be based upon previous background testing results. Contractor shall be responsible for re-cleaning all areas found to be deficient.

3.8 HAZARDOUS MATERIALS DISPOSAL

A. Load-Out Procedures:

1. Ensure that polyethylene bags are sealed air-tight. All bags shall be wet cleaned prior to removing them from the work area.
2. Ensure all disposal containers are properly labeled according to 8 CCR 1529, 5194 (HAZCOM), 49 CFR 171-179 (USDOT), 40 CFR 61 Subpart M (NESHAP), RCRA 40 CFR 761, TACA 15 USC 2695, DTSC Title 22 and any local regulations and state regulations as required by this work plan.

B. PCB's and Lead Disposal Procedures:

1. The Contractor is responsible to determine current waste handling, labeling, transportation and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply fully with these regulations, local, state, and federal regulations and provide documentation of the same.
2. Perform appropriate waste stream categorization as required by this work plan, regulations and the landfill:
 - a. Lead: Total Threshold Limit Concentration (TTLC), Soluble Threshold Limit Concentration (STLC) and Toxicity Characteristic Leaching Procedure (TCLP) testing for lead waste disposal.
 - b. PCBs: DTSC Title 22 CCR 66261.24, RCRA title 40 CFR 761, and TSCA 15 USC 2695,
 - c. All testing shall be done in the presence of the Owner's Environmental Consultant. Chain-of-

custody forms shall be provided to the Owner and the Owner's Consultant within one (1) day following sample delivery to the laboratory.

3. Filter and test all wastewater to the technically feasible limit, but not more than five (5) microns before disposal. Comply with all current local, state and federal codes relating to waste water release.
4. Lead / PCB's-containing waste that is properly labeled and double-bagged may be temporarily stored in areas approved by the Owner. Areas must be made secure before storing the waste. Waste is not to remain in temporary storage area for longer than four (4) days before final load-out of materials.
5. All lead / PCB's waste shall be double-wrapped prior to transport from the site.
6. All vehicles used to transport hazardous waste must be registered with the Department of Toxic Substance Control and display the proper registration and expiration stickers.
7. Contractor shall provide at minimum one (1) day advance notification to the Owner when signatures are required on manifest(s). The Contractor shall ensure that the Hazardous Waste Manifest is correctly filled out. The Contractor shall give the appropriate copies to the Owner and shall also instruct the Owner in writing that they must send the appropriate copy to the Department of Toxic Substance Control.
8. If a debris box is used, the Contractor shall make all necessary arrangement with the Owner including obtaining all appropriate permits.
9. Contractor is responsible for all coordination with the waste disposal site and with the waste hauling company.
10. Debris box for hazardous waste shall be fully lined with a double layer of

polyethylene sheeting and must be locked at all times when unattended.

11. Debris box shall be constructed with minimum 20-gauge steel with no windows or openings other than the door. The door of the container shall have a secure cover on the locking device with access to the lock only at the key-hole. Once the debris box is filled and the manifest is signed, Contractor must transport the debris box off the job site.
12. Disposal shall be in a landfill that meets EPA requirements. Do not throw bags into landfills in a way that may cause the bags to burst open. If bags cannot be taken out of the drums undamaged, then include the disposal of the drums with the bags. Ensure that bags remain intact during this process.

END OF SECTION